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ABSTRACT

The purpose of this report is to discuss and examine the implications of a May 1974 resolution by the Finnish cabinet calling for the reform of secondary education. Basically, the cabinet resolution outlined groundrules for educational planning and development to ensure proper integration of the vocational and secondary school program with the comprehensive and higher education programs. Separate sections of the report examine the cabinet resolution in detail, describe the difficulties of reforming vocational education, and discusses the possible adoption of a nongraded curriculum as a method of implementing secondary school reform. (Author/JG)

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ON THE REFORM OF SECONDARY SCHOOL EDUCATION IN FINLAND

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The Cabinet made a resolution in May 1974 to reform secondary education. The decision outlines grounds for planning and development, which have to be followed when the education given in vocational schools and gymnasia is integrated with that given in the comprehensive school system and higher education. Based on the Cabinet decision fourteen committees were set up of which eleven plan the curricula of vocational schools and the rest deal with changes that take place in standard education.

Primarily vocational education has proved problematic in the secondary education reform. This can be seen in the work load of the committees that were set up to investigate vocational education.

The purpose of this publication is to throw light on the content of the Cabinet decision, the difficulties arising in vocational training, and the non-graded system of education as a method of implementing the instructional uniformity of the secondary school reform.

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I THE CABINET DECISION ON THE REFORM OF SECONDARY EDUCATION

Leevi Melametsä

The contents of the decision

The Cabinet decision from May 30th 1974 outlines the grounds for planning and development which should be observed when vocational school- and gymnasium level education are integrated into the comprehensive school system and tertiary education.

"The Cabinet has, after the matter has been discussed in the Cabinet Committee on finance and after it has been presented by the Ministry of Education, reached the conclusion that the curriculum committees and other drafting organs should bear in mind the following principles for planning and development

a) Vocational training will be developed into a channel capable of competing with gymnasia for tertiary education, taking into consideration, however, the demands of labour market as well as its changes.

b) The comprehensive school will be developed so that the present comprehensive school examination makes it possible to pursue studies in gymnasia, vocational schools and other educational institutions whose curricula are based on the same basic requirements.

c) In case the comprehensive school examination does not give a sufficient basis for secondary level vocational education, the problem shall not be solved by raising the basic requirement of secondary level schools but by raising the level of the comprehensive school. This in view preparations are made to include preschool (one grade) in the comprehensive school system. At the same time certain steps are taken to ascertain that the comprehensive school can provide its pupils a versatile personality development.

d) Vocational education after comprehensive school education shall be arranged into basic lines, which after a general phase are divided into specialization courses varying in difficulty. During the general phase the pupils are taught in addition to cultural subject matter the common content of the various degrees within the same basic line of study.

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e) The gymnasium is developed into a three-year school providing general education. The first school year is a general phase after which the pupils can pursue their studies in the gymnasium or in vocational secondary schools.

f) In all fields of tertiary education as well as in vocational colleges having matriculation examination as a basic requirement for entrance, a sufficient quota must be reserved for those who have graduated from a secondary school with a corresponding curriculum or who have passed other examinations required for further studies.

g) Vocational and tertiary education will be developed so that students in the general education or vocational fields are able to take a university degree approximately at the same age.

h) A separate decision has to be made on how those mentioned in paragraph f can qualify for studies in other fields than their original field of study.

The above goals will be attained by partial reforms, which will be started by curriculum development at the vocational education level. At the same time examination reforms of tertiary education are being accelerated. The implementation of the new curricula for vocational schools can be initiated regionally as soon as the majority of students accepted to these schools have comprehensive school education."

Interpretations of the decision

From a practical point of view the decision implies a demand for opening channels to tertiary education from all secondary schools and especially from vocational schools. The decision also presents a few recommendations for implementation. This demand for "open channels" is justified by general social, labour market and education -political factors.

The present secondary education system maintains educational inequality in spite of the fact that the comprehensive school is "fair" and emphasizes equality among pupils. This inequality is best shown by the present system where the gymnasium provides

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possibilities for any kind of higher education, whereas vocational education leads to an educational "dead-end". The pupils of gymnasia are and will be, regardless of all efforts to provide economic support to those who need it, selected on social grounds. With regard to sufficient labour supply it would be best if a greater portion of each age group were to choose vocational training directly after the comprehensive school. The development at the moment is quite the opposite and might result relatively soon in a situation where we must acquire without any transitional period a 12-year basic education to substitute the present 9-year long basic education.

Because of the fast growth of the gymnasium, the situation is also becoming problematic as regards educational policy. According to the general plan of the Ministry of Education, the 50 per cent of those left outside the gymnasium in 1979 will have at their disposal the places intended for 83.2 per cent. If students having taken the matriculation examination (i.e. gymnasium graduates) do not wish to fill these places but rather enter courses for the unemployed, the vocational schools will not have a sufficient amount of students. If gymnasium graduates occupy places in vocational secondary schools, they will in addition to occupying all tertiary level places, also occupy almost all secondary level places. Thus the comprehensive school will only be a basic school for craftsman-level vocational training.

The principle of "open channels" has been widely accepted, but the methods by which it could be achieved are not known. The most usual solution is the so-called quota principle, where administrative measures are adopted to guarantee a certain portion of places to students who do not formally fulfill the necessary requirements. It is not realistic to apply the quota principle to an extent that craftsman-level studies could be continued at tertiary level. The receiving schools cannot possibly accept students with so different a basic education and vocational training because of organizational difficulties. The quota system is an administrative measure, which does not quarantee that the students having been accepted are actually mature enough to enter further training. The true opening of vocational channels requires a reform in the functional structure of the educational system.

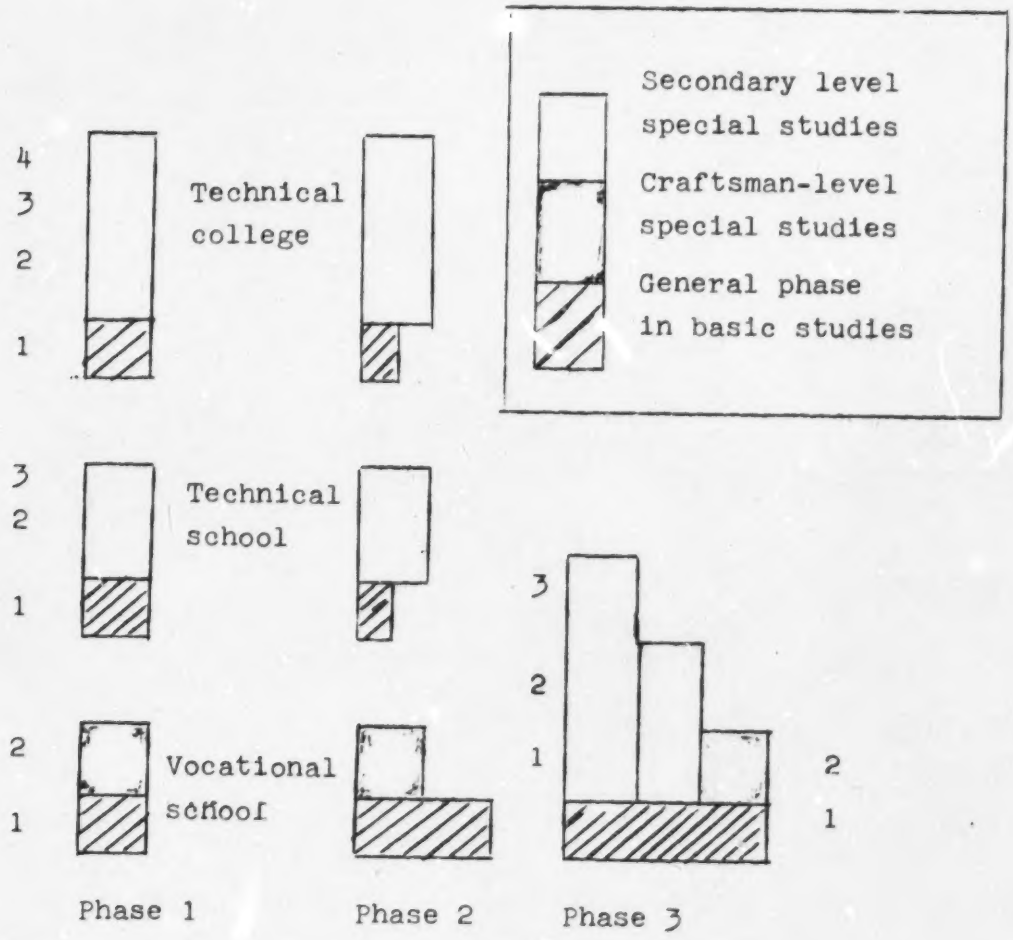
The present school system can be called level-accentuated, because an individual must first choose the level of his vocational studies and only after that the field of study or trade. The level of further studies is determined by general education because those who have primary school background can compete for craftsman-level vocational school places, whereas gymnasium graduates are qualified for all kinds of further training. General education determines e.g. whether an individual becomes a mechanic, technician, engineer or a civil-engineer. Since the task of general education is to determine the level of vocational studies , vocational studies lead to educational dead-ends at all levels of vocational training. Educational dead-ends are thus not considered faulty measures in the level-accentuated school system, but conditions for its rational functioning. The quota method was primarily introduced to remove educational dead-ends without changing the functioning of the educational system as a whole.

The other main feature in the level-accentuated educational system is that studies at each level are started from the basics. Because the teaching contents at the different levels of vocational studies overlap, it takes more time to proceed in the vocational line than in the general education line. Those who have elementary school background must study 9 years to earn engineer's degree whereas those with lower secondary background need only 4 years' extra study. The time difference between elementary- and lower secondary school studies is only one year, but it takes five times more to compensate the difference in the vocational line.

In the field-accentuated school system the field of vocational study is selected before the level. The period of general education is equally long for the entire age group. The system does not classify students according to their further study qualifications into different inequal groups. After the general education phase, students select the vocational field of study and compete for the level within each line of study. That is why vocational studies are arranged to enable advanced studies during the entire working line, and transfer from one level to another does not require repetition of the same teaching contents.

The principle of open channels can best be realized if the present level-accentuated educational system is replaced by a field-accentuated system. If the comprehensive school examination is made equivalent to the lower secondary examination there are theoretical possibilities for executing the principle of open channels. The comprehensive school examination will qualify students e.g. for vocational schools, technical schools and technical colleges. Studies in the before mentioned schools can be globally arranged so that students select first the field of study and then the level. In each line the studies leading to different examinations can be started with a common phase after which the programme is differentiated into various specialization courses. Thus a person who has taken a craftsman-level examination does not have to repeat the same teaching contents after entering college. This in turn will shorten considerably the time spent on studies. The new system could be adopted e.g. in the following way: the present elementary school- and lower secondary school-based vocational schooling could be divided into 20-30 basic lines according to the demands of labour market and teaching contents. After this the new system could be adopted in three phases as presented in figure 1.

Figure 1. Different stages in the organization of one basic line of study



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During the first phase the first year curricula of vocational schools, technical schools and technical colleges having a common basic phase could be conformed. This could be achieved by concentrating their basic teaching contents to the beginning stage of vocational studies. For instance a student with vocational school background could start his studies in either technical school or college from the second grade providing that there are vacant places. During the second phase this problem could be solved by accepting less students to the first grades of technical schools and colleges than there are places on the second grades. Respectively more students could be accepted to the first grades of vocational schools than there are specialization places on the second grades. During the third phase, attempts should be made to teach the common core of each basic line to all students before specialization studies. Only this last phase requires organizational and legislative reforms.

The implementation model presented before the comprehensive school reform must be adopted separately on the craftsman- and technical college levels. For instance technical, closely related lines would horizontally form greater unities with a common basic phase after which parallell specialization lines could be composed. Even if this phase were to be arranged separately in the craftsman-level and college-level education, it should be based on the same division into basic lines as in the total reform based on the comprehensive school. This procedure would facilitate the flexible transition to the comprehensive school-based system.

The implementation model presented here is only one example of many. One of its advantages is that qualitative reform preceeds the organizational one and pedagogic development determines the speed of the reform. This is why vocational education is going on at full speed during every phase of the reform. The reform can also be brought to an end at any phase without causing damage to the reform as a whole.

The system of education can be changed into a level-accentuated one only where it is based on a long general education system. Because the comprehensive school examination does not qualify students to university level studies, the gymnasium will for a long time be the only channel to tertiary education, and the only channel from vocational schools to universities will be the quota system.

The valuation of vocational schools as well as their attractiveness will depend essentially on the largeness of the quota and on the age where university degrees can be taken by students with vocational education background. The demand presented in the Cabinet decision, which states that "vocational and tertiary education will be developed so that students in the general education or vocational fields are able to take a university degree approximately at the same age", presumes that previous vocational studies will be accounted for according to pre-defined principles.

The gymnasium differs from vocational basic lines in that it leads straight on to tertiary vocational studies without a craftsman- or college-level stage. That is why the entrance requirements to a gymnasium could perhaps be made more strict than those to vocational basic lines. This would, however, overemphasize the special status of the gymnasium and the competition to gymnasia might reflect harmfully on the comprehensive school.

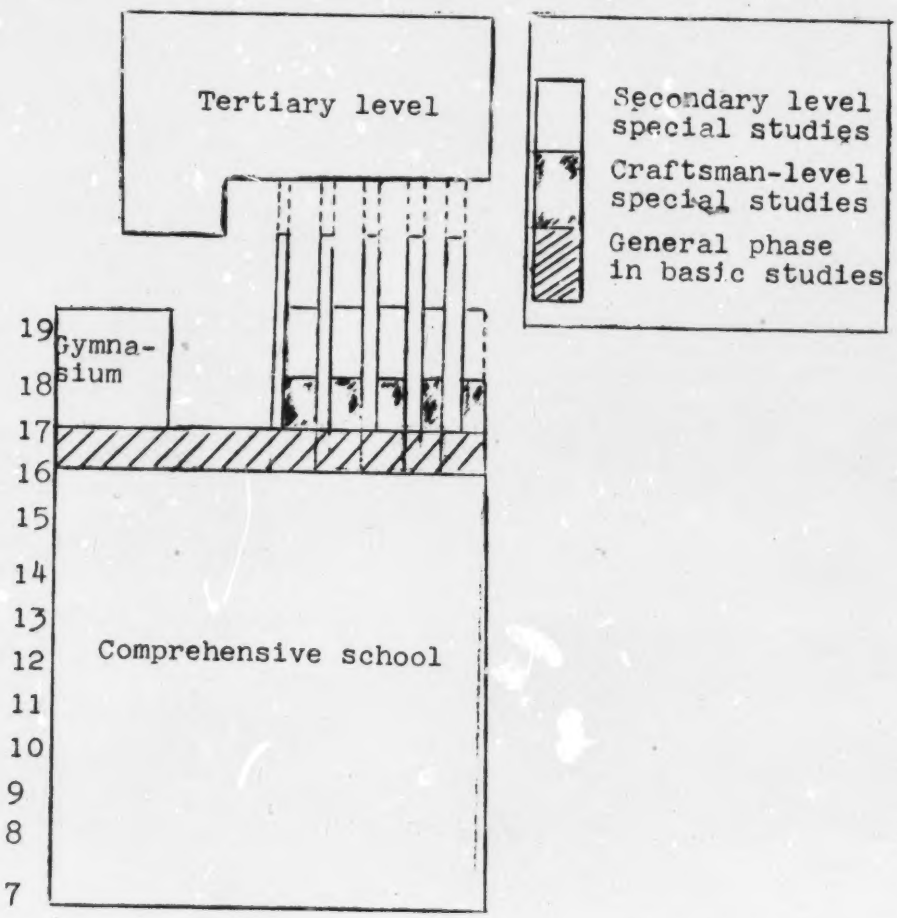
In addition to the above mentioned reasons, the development of the gymnasium is difficult because the number of those taking yearly matriculation examination will soon be so great that comprehensive school graduates will be excluded from further studies. The number of gymnasium graduates should be greatly decreased as the total capasity of gymnasia cannot be decreased with legislative measures without increasing regional inequality and unemployment among teachers.

The third factor in favour of a reform in the gymnasium level education is the present great number of gymnasium drop outs. As early as the end of the 1960's the number of drop outs was 18 per cent of those who had begun studies in gymnasia, and it can be assumed that the relative number of drop outs increases with the number of those entering gymnasia.

If the first year of gymnasium is made into a general phase after which a student can study either in the gymnasium or in a vocational school, the requirements for entering gymnasium do not have to be set higher than those to vocational basic lines. The number of those taking the matriculation examination could also be decreased and drop outs could get a chance to reconsider their future. The structure of the above interpretation of the educational system is presented in figure 2.

The Cabinet decision emphasizes especially the possibilities for further studies from the comprehensive school. The attainment of this goal assumes that the level of the comprehensive school is raised, and that the present lower secondary-based higher vocational education is not abandoned in favour of the gymnasium based one. The early number of gymnasium graduates is already so great that the pedagogic development of lower secondary-based vocational education will be difficult if all those left outside universities start their vocational studies simultaneously with comprehensive school graduates. The proportion of gymnasium based schools and lines in the total amount of vocational places should be left unchanged.

Figure 2. Structure of the educational system



According to the Cabinet decision "the goals will be attained by partial reforms, which will be started by curriculum development at the vocational education level". The implementation of the new curricula for vocational schools should follow regionally the first comprehensive school graduates, which means years 1977-81.

Further measures

The Ministry of Education set up in August fourteen committees to draft the reform of vocational school and gymnasium curricula. Eleven of the committees work on vocational school curricula and three on general education school curricula. The planning is aimed at the fields of farming, travelling, commerce, engineering, seafaring, food industry, domestic arts and crafts, industrial arts, sanitation, home economics, general education in vocational schools, differentiation in the upper level of the comprehensive school, gymnasium curricula and the planning and drafting of experimentation.

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II THE REFORM OF VOCATIONAL TRAINING

Olli Räty

The Finnish system of vocational training has developed into its present state in an automatized society, which can best be described by distributed labour and the fact that various tasks are now performed outside home. The development of production has released labour reserves to an extent that we now have an oversupply of labour. In distributed, mechanical work this oversupply has been taken advantage of without special basic training. The educational system has been developed field by field along the development of industrial life. That is why it has become highly incoherent and is at the moment so extensive that it cannot be handled rationally. At the same time a great number of the young are left outside basic vocational training and in many fields there is no basic vocational training whatsoever.

The Cabinet decision on the secondary education reform made in May 1974 marks a starting point for a long line of measures in the field of vocational training. According to the decision vocational training will be developed so that the instruction given in vocational schools will be closely connected with the instruction given in the comprehensive schools, gymnasia and tertiary education. Adult education has not been mentioned in the decision, but it will not be excluded. Basic vocational training will be a continuation of the comprehensive school. It is in a way a kind of transitory period during which a pupil coming from the comprehensive school becomes an adult, a socially responsible, independent and skilled citizen.

The requirements of labour market

The requirements of labour market have always constituted a basis for vocational training. Thus the Cabinet decision presupposes also that the requirements of labour market as well as changes in it are taken into consideration. It can generally be said that the young must possess certain qualities necessary for entering a trade as well as abilities for developing in the chosen field.

Our labour market is, however, also in an intensive state of change:

- The number of workers is decreasing.
- Our labour market is getting more and more social with society as a whole.
  The needs and expectations of man and society are becoming most important.
- Many fields of industrial life are becoming technical at a fast pace.
  Manual labour requires more versatile knowledge. Automatization substitutes recurring routines.

In planning vocational education certain decisions have to be made taking into consideration the labour market, e.g.

- what kinds of professional trades are aimed at and what is their quantitative need
- what kinds of abilities does our labour market expect vocational training to develop.

The qualitative and quantitative requirements

Plenty of research and extensive reports are required before the needs of our labour market can be sufficiently accounted for and transformed into quantitative and qualitative educational objectives. The aim towards more social, friendly working surroundings, protection of both man and nature should be considered vital. In the planning of vocational training, decisions have to be made with regard to what extent education must facilitate and promote the socialization of industrial life. Neither should the extent of teaching contents and methods in emphasizing the democratization of industrial life be forgotten.

The educational system presented in the Cabinet decision, a division into courses on the basis of vocational fields means a considerable change towards equality, because those to be trained for the executive-, planning- and manual labour branches study together the basic core of their trade. The new system also increases the intellectual readiness of those aiming at performance-level vocations so that workers can perhaps later develop themselves and participate in further training. The crucial point here is to find out how these objectives can be attained.

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Also a motivational readiness to work is required of those planning to become workers. The relations between motivational factors and education have not been studied. It is known that the most important factor in enjoying one's work is the extent to which one masters his work. How can we develop attitudes and motivation in a student for this kind of readiness? We can assume that motivation in education results in positive attitudes towards work. Research into motivational factors will be essential and most important.

Division into basic fields emphasizes e.g. the following factors
- field of industry
- cognitive and performance materials
- person's characteristics and personality traits

Lately attempts have been made to emphasize relations within the fields, because they are closely connected with labour market activities and would also increase the unity of those working together. The present division into vocational fields is based on cognitive and psychomotoric materials created at the university level.

In my opinion, the division into basic fields should at least in the beginning be based on a classification related to the original field of science. It should be general enough in order that a 15-16-year-old would become attracted to a vocational field of study.

Certain points of view should be brought up when basic courses and especially their number are considered.

a) Those working in vocational guidance estimate that the bulk of vocational interests can be divided into 8-12 basic fields. If the educational system consists of about the same number of alternatives, an individual can easily master the situation.
b) Vocational basic courses should compete with gymnasium, thus they should quarantee a pupil entrance into the higher hierarchies of vocational training as well as different kinds of vocations.
c) Vocational basic courses should be available to students regardless of their place of residence.

d) If the number of basic courses is small, instruction at an early stage should be general. Thus students can enter vocational schools without special entrance examinations and they can also transfer from one course to another with little extra study.

e) A highly general basic ccurse tends to increase the length of school time.

The phase in the basic course, which is common to all students, is essential in integrating the different levels of education. The continuation of teaching contents and flexible horizontal movement presuppose that

-teaching contents are grouped in a modular, sequential and parallell structure

-examinations taken in one school are also accepted in other schools.

Thus instructional objectives should, at least in the basic course, be operationalized.

Organizational integration should also be carried out in order to secure the planning of all educational channels from the comprehensive school on to different levels and examinations.

The global reform of vocational training means hard and long-standing work. Among the most important tasks at the implementing stage is the organization of teacher education and teaching material production. Although the new curricula could perhaps be enforced after an experimental period in early 1980's, the teachers will probably not apply the new teaching methods to their teaching before the end of the following decade.

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III ON THE DEVELOPMENT OF A NON-GRADED CURRICULUM[1]

Touko Voutilainen

The present curricula could best be described by two features: they are both subject-centered and grade-centered; pupils are on a certain grade and they study all subjects included in the curriculum. Such a curriculum has its advantages. It is easy to comprehend, simple, and fairly convenient to use. It is static by nature, and all curriculum - based actions are known in advance at the beginning of the school term.

The present curriculum has, however, certain defects, some of which are quite considerable, e.g. it is difficult to produce a suitable rhythm for teaching, the curriculum does not give any support to goal-oriented teaching, it does not emphasize the importance of units and it does not provide possibilities for concentrated teaching. Attempts have been made to eliminate these defects, but usually without any considerable success. One of the reasons for failure is no doubt the structure of the curriculum.

One possibility for reforming the structure of the curriculum is the non-graded curriculum, whose experimentation has been going on for three years under the supervision of the National Board of Education in two day-gymnasia. In the following the main features of the non-graded system are briefly brought up as well as some future perspectives.

Some basic concepts of the non-graded system

The basic concepts of the non-graded system are as follows:

1. The measuring unit of study, module, consists in the present non-graded schools of 32 lessons in a period, which equals 1/6 of a school year. In night-schools the number of lessons is 28. The module can either be defined in lessons, a period or lessons in a period. The last alternative is used in the non-graded curriculum experiments.

[1]This article is given out previously in the Information Magazine (KT 4/74) of the National Board of Education.

2. The study unit, course, is the actual basis for studying. The content of the course forms a factual bulk and the aim of the course is to learn this bulk. The extent of a course is one or more modules. In the present non-graded curricula the extent of a course is generally one module. On the gymnasium level this is probably justified, but in vocational training and especially in method instruction more extensive courses are necessary.
3. Syllabus, which is defined by subject or field objectives. Syllabi are e.g. the extensive mathematics syllabus on the gymnasium level, the short German syllabus and the optional, extra syllabus in history. The syllabus consists of various courses, which are determined on the basis of teaching objectives included in the definitions of the entire syllabus. The extent of the syllabus is indicated by the number of courses included in it. When we know the extent of the courses in modules, the extent of a syllabus can also be expressed in modules. A syllabus is thus generally subject-centered, but it is also quite possible to define objectives whose corresponding syllabi are common to different subjects or fields of knowledge.
4. Examination, which is the sum total of certain syllabi, a defined body having a given name, uch as the comprehensive school examination, the matriculation examination or the business school examination. An examination is a combination of a defined number of syllabi. An examination is not in principle necessary from the point of view of studies. With light exaggeration it can be said that an examination is most often only the name of required syllabi combinations.

A description of the non-graded system does neither require the concepts of "grade" nor "subject". The non-graded system may of course also be based on different grade levels. In that case a grade can be composed by limiting the pupil's possibilities for making course selections in a way that the same group of pupils must belong to the same teaching unit during the entire school year.

Furthermore subjects exist in the sense that almost all syllabi are subject-centered. This cannot be considered a defect as such because a subject often corresponds to a certain closely-related system of concepts.

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Some basic principles of the non-graded curriculum

The actual aim of study is to pass a course. In order that motivation for this kind of activity could develop or exist, the goal should be set relatively close. In the non-graded system the goal can be attained in 4-8 weeks at the most depending on the length of the period. The terms in a school year have no importance as regards the advancement of studies. Pupils' progress is indicated by an increasing number of approved courses.

The approval of a course is independent of the approval or failure in other courses. Thus in the non-graded system a pupil does not have to repeat a course if he has failed in another subject. According to present practise also the mark obtained in a course is independent of marks obtained in other courses within the same syllabus. Both these features increase motivation.

The courses are complete unities, i.e. when courses are compiled, the syllabus cannot be mechanically divided into modules. The construction of a course is based on careful study into the various units within the syllabus. These units are then re-arranged into courses, which have a clearly defined starting point and a natural end. It should be possible to name the course according to the subject it belongs to, but also--and before all--according to its factual contents.

A description of each course is available. The description includes e.g. the following details: ordinal of the course in the syllabus, name of the course, contents of the course i.e. the subjects which are to be studied during the course, weight of the course, textbooks and the specific parts in the textbooks to be covered during the course, other materials, control methods and a statement whether the course is transferable and if it is, to what extent. Distinctive to the non-graded system is that the course description can also be given to pupils. Thus the pupils know at the beginning of each course what lies ahead.

Marking is aimed only at achievement during the course. It is not aimed at the pupil's abilities or other qualities, neither is it aimed at his general mastery of the subject. The mark of an entire syllabus consists of course marks, thus a teacher has no possibilities to influence the final mark.

When a pupil has successfully passed all courses within a certain syllabus, he has passed the entire syllabus. When all syllabi within an examination have been passed, the examination is passed as well. Thus in our non-graded night secondary schools pupils "take the final examination" at quite steady intervals during the term. At the gymnasium level matriculation examinations are arranged twice each school year.

The non-graded curriculum

The curriculum of a non-graded school is a list of syllabi including the number of courses within each syllabus. If the courses are different with regard to their extent, the list includes information on their extent in modules. If different kinds of examinations can be taken in the same school, each examination has its own curriculum.

Syllabi can be related to the examination in different ways. Thus the syllabi of each examination can be grouped as follows:

1. Obligatory syllabi, which are required before an examination is completed.
2. Alternative syllabi where the pupil must choose one from two syllabi, e.g. extensive or short course in mathematics at the gymnasium level.
3. Optional syllabi where the pupil must choose from a certain group of syllabi one or more subjects on certain given conditions.
4. Elective syllabi which are in no way dependent on other syllabi or a group of syllabi. These include the so-called special courses.

The above list could be called the modal system of a curriculum, and at least non-graded curricula should be constructed according to these recommendations. The modality of a single course in relation to an examination is determined by the modality of the syllabus to which the course belongs.

The extent of the non-graded system

The non-graded system can be carried out at the school level as was done in Finland in September 1970. When some new schools in 1972 acquired the non-graded system, they each had their own curricula and courses, with the exception of two day-schools which followed a common curriculum. Especially in night-schools attempts are being made towards uniformity in curricula and courses. The present textbooks are not suited for non-graded teaching, and only a common curriculum would make it possible to produce new instructional materials. The non-graded curriculum should be similar at least within each school form. It would, however, prove quite advantageous if the non-graded system were adapted to all secondary schools. This reform would require three decisions:

1. A decision should be made on a common module i.e. a basic unit of a course. All secondary level courses consist of one, two or three etc. modules. At the same time the length of a period and the number of periods in a school year will be defined. It is essential that the beginning and end dates of each period are the same in all secondary schools.
2. A decision should be made to make all those courses and syllabi equal, which are in content so close to each other that they can be conformed. Complete conformity can only be applied to core courses, in addition to which each course contains subject matter, which indicates the special nature of a syllabus or examination. For instance the same course in German in a gymnasium, a technical college and a business college is analoguous with regard to its core, but contains different vocabulary.
3. It will be decided that if a certain syllabus or course has been successfully passed in some secondary level school, it has been passed in all secondary schools.

We have gained experiences on many of the above mentioned measures although not on a broader scale. The teaching staff of many schools have rearranged the syllabus to suit the non-graded system during the year preceeding the actual transition to the new system. At the moment there are 14 committees functioning under the supervision of the National Board of Education, whose task it is to conform as well as check the courses and syllabi of the non-graded day-gymnasium. This work, which has been going on for two years, will be completed next spring.

All the advantages of a uniform and non-graded secondary school system cannot be predicted in advance. Certain facts can, however, be considered highly probable:

1. There will exist more and different kinds of syllabi from which to choose.
2. Transferability from one profession to another, i.e. horizontal movement, will be more convenient and common than now.
3. Studies that have been pursued previously, can be exploited to a higher extent when proceeding on the same line of study or transferring to a new field.
4. Different fields and levels of study can be combined much easier and more rationally.
5. Teaching materials can be produced more economically.
6. The present institution-centered school becomes less so.
7. The same amount of instruction can be provided at a lower cost than before, and on the other hand more instruction can be provided at the same cost.

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